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THAT WHICH IS CLAIMED IS:

1. A process for the preparation of a molecular sieve adsorbent for adsorptive dehydration of alcohols, said process comprising the steps of:
  - a) obtaining a molecular sieve adsorbent represented by the chemical formula:  $(\text{Na}_2\text{O})_6 \cdot (\text{Al}_2\text{O}_3)_6 \cdot (\text{SiO}_2)_{12} \cdot (\text{M}_{2/n}\text{O}_2)_x \cdot w\text{H}_2\text{O}$ , where M is the element selected from Si, Al, Zr and Ti; n its valance, the values of x varies from 0.001 to 0.1, and w is the number of moles of water;
  - b) activating the molecular sieve adsorbent at a temperature in the range of 350 to 450°C to eliminate physically adsorbed water, for a period ranging from 3 to 6 hours;
  - c) cooling the activated the molecular sieve adsorbent under vacuum in the range of  $10^{-2}$  to  $10^{-4}$  torr;
  - d) treating the activated adsorbent with an alkoxide of element M in a dry solvent;
  - e) drying the treated activated adsorbent of step (d) in air in static condition at a temperature in the range of 15 to 40°C;
  - f) converting the alkoxide deposited on modified adsorbent into silica by calcining the same in a temperature range of 450 to 600°C for a period ranging from 3 to 8 hrs, and
  - g) obtaining the adsorbent by cooling the calcined product of step (g) at ambient temperature in static condition.
2. The process of claim 1, wherein the preferred temperature of activation of molecular sieve adsorbent is about 400°C.
3. The process of claim 1, wherein the alkoxide of step (d) is selected from the group consisting of: tetra methyl orthosilicate, tetra ethyl orthosilicate, titanium iso-propoxide, zirconium iso-propoxide, and aluminium iso-propoxide.
4. The process of claim 1, wherein the dry solvent of step (d) is selected from the group consisting of: toluene, benzene, cyclohexane, and xylene.

- 5        5. The process of claim 1, wherein in step (d) the treatment of activated molecular sieve is performed by treating with alkoxide solution of element M or with vapours of alkoxide.
6. The process of claim 4, wherein the activated adsorbent is treated with the alkoxide of element M in a dry solvent in the in the concentration range of 0.1 to 1.0 wt% / volume for a period in the range of 4 to 8 hours under continuous stirring.
- 10       7. The process of claim 4, wherein the activated adsorbent is treated with the vapours of alkoxide in the temperature range of 80 to 150°C for a period in the range of 2 to 6 hours.
- 15       8. The process of claim 1, wherein said metal alkoxide deposition on the microporous solid surface is carried out in a simple liquid phase reaction at ambient temperature and pressure conditions with constant stirring.
9. The process of claim 5, wherein in step (d), 0.10 to 1.0 weight percent of metal alkoxide is deposited uniformly on the surface of activated adsorbent.
- 20       10. The process of claim 1, wherein in step (g), the temperature of calcinations is about 550°C.
11. The process of claim 1, wherein the calcinations time is about 4 hours.
12. The process of claim 1, wherein the adsorbent prepared is useful for the dehydration of alcohols and the recovery of alcohol is 99.9%.
- 25       13. A process for the preparation of a molecular sieve adsorbent for the adsorptive dehydration of alcohols using a molecular sieve adsorbent represented by the chemical formula:  $(\text{Na}_2\text{O})_6 \cdot (\text{Al}_2\text{O}_3)_6 \cdot (\text{SiO}_2)_{12} \cdot (\text{M}_{2/n}\text{O}_2)_x \cdot w\text{H}_2\text{O}$ , where M is Si, Al, Zr, Ti; n its valancy, the values of x varies from 0.001 to 0.1 and w being the number of moles of water, which comprises activating the molecular sieve at temperature in a range of 350 to 450°C to eliminate physically adsorbed water for a period ranging from 3 to 6 hours; cooling the solid under vacuum in a range of  $10^{-2}$  to  $10^{-4}$  torr; treating the activated solid with a solution of alkoxide in a dry solvent for a period of 4 to 8 hours; and heating the alkoxide
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- 5 deposited solid in the temperature range of 450 to 600°C for a period ranging from 3 to 8 hours.
14. A process for the preparation of a molecular sieve adsorbent for the adsorptive dehydration of alcohols using a molecular sieve adsorbent represented by the chemical formula:  $(\text{Na}_2\text{O})_6 \cdot (\text{Al}_2\text{O}_3)_6 \cdot (\text{SiO}_2)_{12} \cdot (\text{M}_{2/n}\text{O}_2)_x \cdot w\text{H}_2\text{O}$ , where M is Si, Al, Zr, Ti ; n its valancy, the values of x varies from 0.001 to 0.1 and w being the number of moles of water, which comprises activating the molecular sieve at temperature in the range of 350 to 450°C to eliminate physically adsorbed water for a period ranging from 3 to 6 hours; cooling the solid under vacuum in the range of  $10^{-2}$  to  $10^{-4}$  torr; treating the activated solid with vapours of the alkoxide at a temperature range of 80 to 150°C for a period of 2 –to 6 hours; heating the alkoxide deposited solid in the temperature range of 450 to 600°C for a period ranging from 3 to 8 hours.
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